RISC PC

Data Sheet 15
SVGA in 16 million colours

April 1994

The new Acorn Risc PC offers a choice of up to 16 million colours - and, what is more, you can have this choice at SVGA resolution (800 x 600 pixels) with 2MB of VRAM fitted. If you need a higher resolution than this, you can choose up to 1280 x 1024 non-interlaced, even on a standard Acorn Risc PC with no VRAM fitted, in 4 levels of greyscale, or in 256 colours if you fit 2MB of VRAM.

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Hardware

These resolutions and colour depths are made possible by the new ARM VIDC20 video chip. Video modes are fully configurable by the user, and there is a direct relationship between resolution and colour depth, so for some some applications you may choose a higher resolution at the expense of the number of colours, and in others more colours and less high resolution.

The guaranteed pixel rate achieved is 110MHz, with 135MHz typical on many systems memory bandwidth into VIDC20 is at least 38MB/s with no VRAM, rising to 76MB/s with 1MB and 152MB/s with 2MB VRAM fitted.

The following table summarises Risc PC video performance:

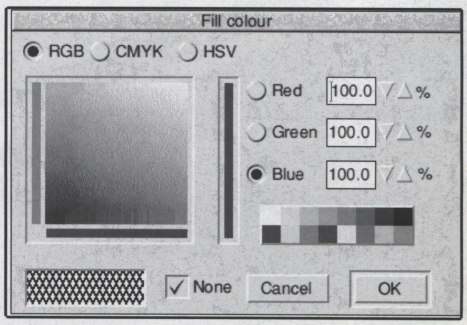
	Resolution	Colours	Refresh rate (Hz)	Pixel rate (MHz)
DRAM only	1280 x 1024	4 greys	60	110
	1024 x 768	16	70	75
	800 x 600	256	56	36
1MB VRAM	1280 x 1024	16	60	110
	1024 x 768	256	70	75
	800 x 600	32K	56	36
2MB VRAM	1280 x 1024	256	60	110
	1024 x 768	32K	70	75
	800 x 600	16m	56	36

Software

RISC OS has been extended to support VIDC20 and the new video modes it makes possible. Inside the operating system, changes have been made to the kernel and the SpriteExtend and ColourTrans modules.

What the user sees are a new Display Manager and Colour Picker. The new Display Manager replaces the Mode option on the Palette icon in previous versions of RISC OS. Click on the Display Manager icon, set the number of colours you want, and the possible screen resolutions available to you are displayed, given the number of colours chosen and the particular configuration of your computer.

The new Colour Picker allows you to work in one of three colour models - HSV, RGB and CMYK. These colour models relate to the different ways colour are used. RGB is the traditional computer colour model, where colours are displayed on a screen by mixing points of Red, Green and Blue light emitted from the monitor tube. CMYK is the printer's colour model - colour printing being made up of dots of Cyan (blue), Magenta, Yellow and Black key colours - and you would use this model where you wanted to produce colour separations to send to a printer. HSV (Hue, Saturation, Value), on the other hand, generates colours in a way similar to that used by artists when they mix paint: the Hue is the basic colour, the Saturation is the amount of white added, and the Value is the amount of Black added.



United Kingdom
Acorn Computers Limited
Acorn House
Vision Park
Histon
Cambridge CB4 4AE

Telephone (0223) 254254
Int +44 223 254 254
Fax (0223) 254262

Australia
Acorn Computers
Australia Pty Ltd
29 Cromwell Street
Collingwood
Victoria 3066

Telephone: (03) 419 3033
Int +61 3419 3033
Fax (03) 419 2892

Australia
Acorn Computers
Australia Pty Ltd
Unit 7, 190 George Street
Parramatta
New South Wales 2150

Telephone (02) 891 6555
Int +61 2891 6555
Fax: (02) 635 9641

Germany
Acorn Computers GmbH
Jürgensplatz 36-38
40219 Düsseldorf

Telephone (0211) 308 494
Int +49 211 308 494
Fax (0211) 394386

New Zealand
Acorn Computers
New Zealand Ltd
1 Ngaire Avenue
PO Box 26 - 287
Epsom, Auckland 3

Telephone (09) 520 4049
Int +64 9520 4049
Fax: (09) 520 3321

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